

REMARKS

Phone Interview

Applicant would like to thank the Examiner for his time spent in discussing the case over the telephone and for the helpful suggestions for amending the claims to overcome the pending rejections.

Election/Restrictions

Applicant would like to thank the Examiner for withdrawing the restriction between Groups I (claims 1-3) and IV (claims 74-76). Accordingly, the invention of claims 1-3 and 74-76 is currently examined in the present application.

Status of the Claims

Claims 1-76 have been canceled. New claims 77-104 replace claims 1-3 and 74-76. Support for the new claims is summarized in the table below.

Claim(s)	Support
77	Original claim 1; Paragraph 287, line 6; Paragraph 305, line 5; Paragraph 84, lines 1-4.
78	Paragraph 278, line 5
79	Paragraph 289, line 12; Paragraph 278, line 6
80	Paragraph 253, line 10
81	Paragraph 277, line 3
82	Paragraph 90, line 1
83	Paragraph 20, lines 4-7
84, 98	Paragraph 20, lines 4-7
85, 99, 100, 103	Original claims 13, 25, 27, 29, 31, 33
86, 101, 102, 104-108	Original claims 14, 15, 26, 28, 30, 32,33; Paragraph 192, line 1; Paragraph 196, line 1; Paragraph 200, line 7
87	Paragraph 37, line 3

88	Paragraph 191, lines 1-5
89	Paragraph 84, line 8; Paragraph 190, lines 5-7
90	Paragraph 192, line 2
91	Paragraph 84, line 8; Paragraph 190, lines 5-7
92	Original claim 2
93	Original claim 5
94	Original claim 3
95	Original claim 6
96	Original claim 66
97	Original claim 67

New claims 77-97 provide separate specific embodiments of the claimed invention. New claims 77-97 are directed to the same invention as claims 1-3 and 74-76. Specifically, new claims 77-93 are directed to inhibitors, and new claims 94-104 are directed to methods of using the inhibitors of claim 77. New claims 77-92 are based on original claims 1 and 2, and new claims 94-104 are based on original claims 3 and 76.

Rejection Under 35 U.S.C. §§ 101 and 112, First Paragraph

Claims 1-3 and 74-76 are rejected under 35 U.S.C. §§ 101 and 112, first paragraph, as lacking credible utility and failing to comply with written description requirement.

Claims 1-3 and 74-76 have been canceled and replaced with new claims 77-104. New claims 77-93 as they stand are directed to inhibitors that have about 15 fold to about 15,000 fold greater selectivity for a mutant enzyme as compared to its selectivity for the corresponding wild-type enzyme. New claims 94-104 are directed to methods of using such inhibitors. The mutant enzyme has the same amino acid sequence as its corresponding wild-type enzyme except the mutant enzyme contains amino acid mutations in its catalytic domain.

As shown throughout the specification, these inhibitors inhibit the catalytic activity of a mutant enzyme. For example, the inhibitor inhibits the phosphorylation of a substrate (paragraph 245), and the growth of a cell expressing the mutant enzyme (paragraphs 311-314), and the inhibitor disrupts the transformation in a cell that expresses the mutant enzyme (paragraphs 257,

258, 281). As shown in the Examples, the inhibitors of the present invention are more selective towards the mutant enzymes than the wild-type enzymes, even when the mutant enzyme and the wild-type enzyme differ by only one amino acid in their catalytic domain. (see specifically, Examples 16-19) Accordingly, the claimed invention has credible utility.

Moreover, the specification provides adequate written description for the claims. The specification describes the inhibitors, their selectivity for the mutant enzymes as compared to wild-type enzymes, and provides examples of the inhibitors and methods of using the inhibitors throughout the text. The specification also describes mutant enzymes and provides examples of the mutant enzymes comprising amino acid mutations in the catalytic domain. Accordingly, the specification provides sufficient written description to convey to one of ordinary skill in the art that the invention at the time the application was filed, had possession of the claimed invention.

Applicant respectfully requests withdrawal of the rejection.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 1-3 and 74-76 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-3 and 74-76 have been canceled and replaced with claims 77-104. Applicant notes that the definition of “mutant” is defined in paragraph 84 of the specification. Thus, the rejection is deemed to be moot.

Conclusion

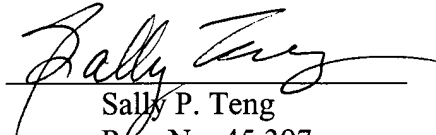
The foregoing amendments and remarks are being made to place the application in condition for allowance. Applicant respectfully requests entry of the amendments, reconsideration, and the timely allowance of the pending claims. A favorable action is awaited. Should the Examiner find that an interview would be helpful to further prosecution of this application, they are invited to telephone the undersigned at their convenience.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this

application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310.

Respectfully submitted,

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